Message

From: Beeler, Cindy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP

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Sent: 3/15/2019 9:57:18 PM

To: Marsh, Karen [Marsh.Karen@epa.gov]; Garwood, Gerri [Garwood.Gerri@epa.gov]

Subject: O&G LDAR - Notes from CO AIMM Monthly Meeting + Questions

Karen & Gerri -

I sat in on the monthly CO AIMM Team meeting yesterday. They had an OGI camera manufacturer (Konica Minolta) come in to provide CO an update on their OGI camera and discuss requirements for listing their camera on the CO AIMM web page as an example OGI camera. The price is ~\$150-180k (it sees visible background with color-coded hydrocarbon IR image on top, color-coded for gradation in concentration).

I mentioned the work Jason had been involved in with ERG, "Technical Support Document - Optical Gas Imaging Protocol (40 CFR Part 60, Appendix K)" which included testing of the FLRI GF-320 and Opgal OGI cameras. **Has 40 CFR part 60 Appendix K Been Codified?** Apparently, OGI camera manufacturers are going to NPL lab in the United Kingdom for testing.

Is NPL lab testing (or any testing) relevant? Or, can any OGI camera be used as long as it meets requirements of 60.5397a (c)(7)(i) through (vii)?

(c)(7)(i) Verification that your optical gas imaging equipment meets the specifications of paragraphs (c)(7)(i)(A) and (B) of this section. This verification is an initial verification and may either be performed by the facility, by the manufacturer, or by a third party. For the purposes of complying with the fugitives emissions monitoring program with optical gas imaging, a fugitive emission is defined as any visible emissions observed using optical gas imaging.

- (A) Your optical gas imaging equipment must be capable of imaging gases in the spectral range for the compound of highest concentration in the potential fugitive emissions.
- (B) Your optical gas imaging equipment must be capable of imaging a gas that is half methane, half propane at a concentration of 10,000 ppm at a flow rate of \leq 60g/hr from a quarter inch diameter orifice.

In the CO AIMM meeting, there was also discussion on a methane-only detection camera, FLIR GF77 (https://www.flir.com/products/gf77/). It is long-wave IR and not cooled so cheaper at \sim \$39k but it has \sim 4X less sensitivity than GF-320. If it can image a gas that is half methane, half propane at a concentration of 10,000 ppm at a flow rate of \leq 60g/hr from a quarter inch diameter orifice, **could it be used for NSPS OOOOa LDAR compliance?**

Cindy Beeler

US EPA Region 8 Tel: 303-312-6204 Beeler.Cindy@epa.gov

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